

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 (Withdrawn). A method for inducing an immune response to latent tuberculosis in an individual, said method comprising the step of delivering a composition comprising one or more polypeptides or fragments thereof, which polypeptides are upregulated or expressed during the latent stage of the mycobacteria infection, and/or nucleic acids encoding these polypeptides.

2 (Withdrawn). The method according to claim 1, wherein said individual is infected by a virulent mycobacterium, e.g. *M. tuberculosis*, and is not vaccinated with BCG against tuberculosis.

3 (Withdrawn). The method according to claim 1, where the polypeptides upregulated during the latent stage of the mycobacteria infection, comprises one or more an amino acid sequences selected from

- (a) SEQ ID NO: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44 and 45
- (b) an immunogenic portion, e.g. a T-cell epitope, of any one of the sequences in (a); and /or
- (c) an amino acid sequence analogue having at least 70% sequence identity to any one of the sequences in (a) or (b) and at the same time being immunogenic.

4 (Withdrawn). The method according to claim 3, where the immunogenic portions are selected from the group consisting of SEQ ID NO 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,

14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44 and 45.

5 (Withdrawn). The method according to claim 1, where the nucleic acid sequences are selected from SEQ ID NO: 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89 and 90.

6 (Currently Amended). A therapeutic vaccine against tuberculosis comprising one or more polypeptides or fragments hereof, which polypeptides are upregulated or expressed during the latent stage of the mycobacteria infection, ~~and/or nucleic acids encoding these polypeptides~~.

7 (Currently Amended). A therapeutic vaccine according to claim 6 where the polypeptides upregulated or expressed during the latent stage of the mycobacteria infection, which stage is characterized by low-oxygen tension in the microenvironment of the mycobacteria, comprises one or more amino acid sequences selected from

- (a) SEQ ID NO 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44 and 45
- (b) an immunogenic portion, e.g. a T-cell epitope, of any one of the sequences in (a); and /or
- (c) an amino acid sequence analogue having at least 70% sequence identity to any one of the sequences in (a) or (b) and at the same time being immunogenic.

8 (Original). A therapeutic vaccine according to claim 7, where the immunogenic portions are selected from the group consisting of SEQ ID NO 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44 and 45.

9 (Currently Amended). A therapeutic vaccine according to claim 6, wherein at least one of the one or more polypeptides or fragments thereof, ~~which polypeptides are expressed during the latent stage of the mycobacteria infection, which stage is characterized by low oxygen tension in the microenvironment of the mycobacteria, is fused to at least one fusion partner which is an antigen~~ expressed by bacteria within the mycobacteria family.

10 (Currently Amended). A therapeutic vaccine according to claim 9 where the fusion partner partners is selected from the group consisting of ESAT-6, ESAT-6-Ag85B, TB10.4, CFP10, RD1-ORF5, RD1-ORF2, Rv1036, MPB64, MPT64, Ag85A, Ag85B (MPT59), MPB59, Ag85C, 19kDa lipoprotein, MPT32.

Claim 11. Cancelled.

12 (Original). A multiphase vaccine comprising antigen components with therapeutic activity according to claim 6 combined with antigen components with prophylactic activity.

13 (Currently Amended). A multiphase vaccine according to claim 12 where the antigen components with prophylactic activity ~~comprises are selected from the group consisting of~~ are selected from the group consisting of ESAT-6, ESAT-6-Ag85B, TB10.4, CFP10, RD1-ORF5, RD1-ORF2, Rv1036, MPB64, MPT64, Ag85A, Ag85B (MPT59), MPB59, Ag85C, 19kDa lipoprotein or MPT32.

Claims 14 and 15. Cancelled.

16 (Currently Amended). A vaccine according to claim 6, where the ~~antigen components are recombinant polypeptides or fragments are recombinant or synthetic and are synthetic peptides~~ delivered in a delivery system such as an adjuvant.

17 (Currently Amended). A vaccine according to claims 6 in which the ~~amino acid sequence polypeptide or fragment~~ is lipidated so as to allow a self-adjuvanting effect of the polypeptide.

18 (Withdrawn). A method for treating an animal, including a human being, with tuberculosis caused by virulent mycobacteria, e.g. by *Mycobacterium tuberculosis*, *Mycobacterium africanum* or *Mycobacterium bovis*, comprising administering to the animal the vaccine according to claim 6.

19 (Withdrawn). A method for immunizing an animal, including a human being, against tuberculosis caused by virulent mycobacteria, e.g. by *Mycobacterium tuberculosis*, *Mycobacterium africanum* or *Mycobacterium bovis*, comprising administering to the animal the vaccine according to claim 12.

20 (Withdrawn). A method of diagnosing tuberculosis caused by virulent mycobacteria, e.g. by *Mycobacterium tuberculosis*, *Mycobacterium africanum* or *Mycobacterium bovis*, in an animal, including a human being, comprising application or intradermally injecting, in the animal, polypeptides or fragments hereof, which polypeptides are expressed during the latent stage of the mycobacteria infection, and/or nucleic acids encoding these polypeptides, a positive skin response at the location of injection or application being indicative of the animal having tuberculosis, and a negative skin response at the location of injection or application being indicative of the animal not having tuberculosis.

21 (Withdrawn). A method for diagnosing previous or ongoing infection with a virulent mycobacterium, said method comprising contacting a sample, e.g. a blood sample, comprising mononuclear cells (e.g. T-lymphocytes), with a polypeptides or fragments

hereof, which polypeptides are expressed during the latent stage of the mycobacteria infection, which stage is characterized by low-oxygen tension in the microenvironment of the mycobacteria, in order to detect a positive reaction, e.g. proliferation of the cells or release of cytokines such as IFN- γ .

22 (Withdrawn). A method of diagnosing *Mycobacterium tuberculosis* infection in a subject comprising:

- (a) contacting a polypeptides or fragments hereof, which polypeptides are expressed during the latent stage of the mycobacteria infection, which stage is characterized by low-oxygen tension in the microenvironment of the mycobacteria, with a bodily fluid of the subject;
- (b) detecting binding of an antibody to said polypeptide, said binding being an indication that said subject is infected by *Mycobacterium tuberculosis* or is susceptible to *Mycobacterium tuberculosis* infection.